

SEQUENCE LISTING

<110> Reed, Jennifer

<120> METHODS OF PREVENTING OR TREATING RESPIRATORY CONDITIONS

<130> 10271-113-999

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<150> 60/462,307

<151> 2003-04-11

<150> 60/477,801

<151> 2003-06-10

<160> 63

<170> PatentIn version 3.2

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<212> PRT

<213> Homo sapiens

<400> 1

Gly Tyr Thr Phe Thr Gly Tyr Trp Ile Glu
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Glu Ile Leu Pro Gly Ser Gly Thr Thr Asn Tyr Asn Glu Lys Phe Lys
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Gly

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<211> 13

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Ala Asp Tyr Tyr Gly Ser Asp Tyr Val Lys Phe Asp Tyr
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Lys Ala Ser Gln His Val Gly Thr His Val Thr
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Ser Thr Ser Tyr Arg Tyr Ser
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Gln His Phe Tyr Ser Tyr Pro Leu Thr
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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Gly Tyr Trp
20 25 30

Ile Glu Trp Val Arg Gln Ala Pro Gly Gln Leu Glu Trp Met Gly Glu
35 40 45

Ile Leu Pro Gly Ser Thr Thr Asn Tyr Asn Glu Lys Phe Lys Gly Arg
50 55 60

Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu Leu
65 70 75 80

Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala
85 90 95

Asp Tyr Tyr Gly Ser Asp Tyr Val Lys Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Ser Ser
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<400> 8

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln His Val Gly Thr His
 20 25 30

Val Thr Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Ser Thr Ser Tyr Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Tyr Ser Tyr Pro Leu
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

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<400> 9

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Gly Tyr
 20 25 30

Trp Ile Glu Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Glu Trp Leu Pro Gly Ser Gly Thr Thr Asn Tyr Asn Asn Glu Lys
 50 55 60

Phe Lys Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ser Thr Ser Thr
 65 70 75 80

Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr
 85 90 95

Tyr Cys Ala Arg Ala Asp Tyr Tyr Gly Ser Asp Tyr Val Lys Phe Asp
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

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Glu Trp Leu Pro Gly Ser Gly Thr Thr Asn Tyr Asn Glu Lys Phe Lys
 1 5 10 15

Gly

<210> 11
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Gly Tyr Thr Phe Thr Tyr Tyr Trp Ile Glu
 1 5 10

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Ala Asp Tyr Tyr Gly Ser Asp His Val Lys Phe Asp Tyr
 1 5 10

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Leu Ala Ser Gln His Val Gly Thr His Val Thr
1 5 10

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Gly Thr Ser Tyr Arg Tyr Ser
1 5

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<400> 15

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Tyr Tyr
20 25 30

Trp Ile Glu Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Glu Trp Leu Pro Gly Ser Gly Thr Thr Asn Tyr Asn Glu Lys Phe Lys
50 55 60

Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met
65 70 75 80

Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Ala Asp Tyr Tyr Gly Ser Asp His Val Lys Phe Asp Tyr Trp Gly
100 105 110

Gln Thr Leu Val Thr Val Ser Ser
115 120

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<400> 16

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Gln His Val Gly Thr His
20 25 30

Val Thr Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Thr Ser Tyr Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Tyr Asp Tyr Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Gly Tyr
20 25 30

Trp Ile Glu Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Trp Leu Pro Gly Ser Gly Thr Thr Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys

	85		90		95
Ala Arg Ala Asp Tyr Tyr Gly Ser Asp His Lys Phe Asp Tyr Trp Gly	100		105		110
Gln Gly Thr Leu Thr Val Ser Ser	115		120		
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Asp Gln Ile Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly	1	5	10		15
Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln His Val Gly Thr His	20		25		30
Val Thr Trp Thr Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu	35		40		45
Ile Tyr Gly Thr Ser Tyr Arg Tyr Ser Gly Val Pro Arg Phe Ser Gly	50		55		60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro	65	70		75	80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Tyr Glu Tyr Pro Leu	85		90		95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys	100		105		
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<213> Homo sapiens					
<400> 19					
Gly Gly Thr Phe Ser Gly Tyr Trp Ile Glu	1	5	10		
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<400> 20

Gln Gln Phe Tyr Glu Tyr Pro Leu Thr
1 5

<210> 21

<211> 119

<212> PRT

<213> Homo sapiens

<400> 21

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Ser Cys Lys Ala Gly Gly Thr Phe Ser Gly Tyr Trp Ile
20 25 30

Glu Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
35 40 45

Ile Leu Pro Gly Ser Gly Thr Thr Asn Tyr Asn Glu Lys Phe Lys Gly
50 55 60

Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr Met Glu
65 70 75 80

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
85 90 95

Ala Asp Tyr Tyr Gly Ser Asp Tyr Val Lys Phe Asp Tyr Trp Gly Gln
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 22

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<212> PRT

<213> Homo sapiens

<400> 22

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Val Gly Asp
1 5 10 15

Arg Val Thr Ile Thr Cys Lys Ala Ser Gln His Val Gly Thr His Val
20 25 30

Thr Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Lys Leu Leu Ile
 35 40 45

Tyr Ser Thr Ser Tyr Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Phe Tyr Glu Pro Leu Thr
 85 90 95

Gly Phe Gly Gly Gly Thr Lys Val Ile Glu Lys
 100 105

<210> 23
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<400> 23

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Gly Tyr
 20 25 30

Trp Ile Glu Glu Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Glu Ile Leu Pro Gly Ser Gly Thr Thr Asn Pro Asn Glu Lys Phe
 50 55 60

Lys Gly Arg Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr Met
 65 70 75 80

Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Ala Asp Tyr Tyr Gly Ser Asp Tyr Val Lys Phe Asp Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 24
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<212> PRT
<213> Homo sapiens

<400> 24

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln His Val Gly Thr His
20 25 30

Val Thr Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Thr Ser Tyr Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Tyr Cys Gln Gln Phe Tyr Glu Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 25
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<213> Homo sapiens

<400> 25

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Ser Gln His Val Gly Thr
20 25 30

His Val Thr Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Gly Thr Ser Tyr Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
65 70 75 80

Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Phe Tyr Glu Tyr Pro

85

90

95

Leu Thr Phe Gly Gly Gly Thr Val Glu Ile Lys
100 105

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Gly Gly Thr Phe Ser Tyr Tyr Trp Ile Glu
1 5 10

<210> 27
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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Tyr Tyr
20 25 30

Trp Ile Glu Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Leu Pro Gly Ser Gly Thr Thr Asn Pro Asn Glu
50 55 60

<210> 28
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<212> PRT
<213> Homo sapiens

<400> 28

Asp Ile Gln Met Met Thr Gln Ser Pro Ser Ser Leu Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln His Val Ile Thr His
20 25 30

Val Thr Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Thr Ser Tyr Ser Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly

50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Phe Tyr Glu Tyr Pro Leu
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 29
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 <213> Homo sapiens

<400> 29

Gln Val Gln Leu Val Gln Ser Asx Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Gly Tyr
 20 25 30

Trp Ile Glu Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Glu Ile Leu Pro Gly Ser Gly Thr Thr Asn Pro Asn Glu Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asp Tyr Tyr Gly Ser Asp Tyr Val Lys Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

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 <213> Homo sapiens

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Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Thr Ile Thr Cys Lys Ala Ser Gln His Val Gly Thr His Val
 20 25 30

Thr Trp Tyr Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Gly
 35 40 45

Thr Ser Tyr Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
 50 55 60

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
 65 70 75 80

Phe Ala Thr Tyr Tyr Cys Gln Gln Phe Tyr Glu Tyr Pro Leu Thr Phe
 85 90 95

Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 31
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 <213> Homo sapiens

<400> 31

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Lys Pro Gly Ser Ser Val Lys Ser Cys Lys Ala Ser Gly
 20 25 30

Gly Thr Phe Ser Tyr Tyr Trp Ile Glu Trp Val Arg Gln Ala Pro Gly
 35 40 45

Gln Gly Leu Glu Trp Met Gly Glu Ile Leu Pro Gly Ser Gly Thr Thr
 50 55 60

Asn Pro His Glu Lys Phe Lys Gly Arg Val Thr Ile Thr Ala Asp Glu
 65 70 75 80

Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp
 85 90 95

Thr Ala Val Tyr Tyr Cys Ala Arg Ala Asp Tyr Tyr Gly Ser Asp Tyr

	100		105		110										
Val	Lys	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Ser	Ser	
	115					120						125			
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Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	Ser	Leu	Ser	Ala	Ser	Val	Gly
1				5					10					15	
Asp	Arg	Val	Thr	Ile	Thr	Cys	Lys	Ala	Ser	Gln	His	Val	Ile	Thr	His
			20					25					30		
Val	Thr	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ala	Pro	Lys	Leu	Leu	Ile
			35				40					45			
Tyr	Gly	Thr	Ser	Tyr	Arg	Tyr	Ser	Gly	Val	Pro	Ser	Arg	Phe	Ser	Gly
	50					55					60				
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Thr	Ile	Ser	Ser	Leu	Gln	Pro
65					70					75				80	
Glu	Asp	Phe	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Phe	Tyr	Glu	Tyr	Pro	Leu
				85					90					95	
Thr	Phe	Gly	Gly	Gly	Thr	Lys	Val	Glu	Ile	Lys					
			100					105							
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Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala
1				5					10					15	
Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser							
			20					25							
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<400> 34

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 35

<211> 32

<212> PRT

<213> Homo sapiens

<400> 35

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 36

<211> 11

<212> PRT

<213> Homo sapiens

<400> 36

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 37

<211> 25

<212> PRT

<213> Homo sapiens

<400> 37

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser
20 25

<210> 38

<211> 32

<212> PRT

<213> Homo sapiens

<400> 38

Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr Met Glu
1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg

	20	25	30
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<210> 39
 <211> 23
 <212> PRT
 <213> Homo sapiens

 <400> 39

 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

 Asp Arg Val Thr Ile Thr Cys
 20

 <210> 40
 <211> 15
 <212> PRT
 <213> Homo sapiens

 <400> 40

 Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr
 1 5 10 15

 <210> 41
 <211> 32
 <212> PRT
 <213> Homo sapiens

 <400> 41

 Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15

 Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
 20 25 30

 <210> 42
 <211> 10
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 <213> Homo sapiens

 <400> 42

 Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 1 5 10

 <210> 43
 <211> 366
 <212> DNA
 <213> Homo sapiens

 <400> 43

caggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctgggtcctc agtgaagggt	60
tcctgcaagg catctggagg caccttcagc tattactgga tagagtgggt gcgacaggcc	120
cctggacaag ggcttgagtg gatgggagag attttacctg gaagtggtag tactaaccgc	180
aatgagaagt tcaagggcag agtcaccatt accgcggacg aatccacgag cacagcctac	240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gagagcggat	300
tactacggta gtgattacgt caagtttgac tactggggcc aaggaaccct ggtcaccgtc	360
tcctca	366

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 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 44	
ggaggcacct tcagctatta ctggatagag	30

<210> 45
 <211> 51
 <212> DNA
 <213> Homo sapiens

<400> 45	
gagattttac ctggaagtgg tactactaac ccgaatgaga agttcaaggg c	51

<210> 46
 <211> 39
 <212> DNA
 <213> Homo sapiens

<400> 46	
gcggattact acggtagtga ttacgtcaag tttgactac	39

<210> 47
 <211> 321
 <212> DNA
 <213> Homo sapiens

<400> 47	
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc	60
atcacttgca aggcaagtca gcatgtgatt actcatgtaa cctgggtatca gcagaaacca	120
gggaaagccc ctaagctcct gatctatggg acatcctaca gctacagtgg ggtcccatca	180
aggttcagtg gcagtggata tgggacagat ttcactctca ccatcagcag tctgcaacct	240
gaagattttg caacttatta ctgtcagcaa ttttacgagt atcctctcac gttcggcgga	300
gggaccaagg tggagatcaa a	321

<210> 48
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 48
 aaggcaagtc agcatgtgat tactcatgta acc 33

<210> 49
 <211> 15
 <212> DNA
 <213> Homo sapiens

<400> 49
 gggacatcct acagc 15

<210> 50
 <211> 27
 <212> DNA
 <213> Homo sapiens

<400> 50
 cagcaatttt acgagtatcc tctcacg 27

<210> 51
 <211> 591
 <212> DNA
 <213> Homo sapiens

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 caggccaggg gtgtccaacc ttggcgggga tcttgacat caacttcctc atcaacaaga 120
 tgcaggaaga tccagcttcc aagtgccact gcagtgctaa tgtgaccagt tgtctctgtt 180
 tgggcattcc ctctgacaac tgcaccagac catgcttcag tgagagactg tctcagatga 240
 ccaataccac catgcaaaca agataccac tgattttcag tcgggtgaaa aaatcagttg 300
 aagtactaaa gaacaacaag tgtccatatt tttcctgtga acagccatgc aaccaaacca 360
 cggcaggcaa cgcgctgaca tttctgaaga gtcttctgga aattttccag aaagaaaaga 420
 tgagagggat gagaggcaag atatgaagat gaaatattat ttatcctatt tattaaattt 480
 aaaaagcttt ctctttaagt tgctacaatt taaaaatcaa gtaagctact ctaaatacgt 540
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<210> 52
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<400> 52

Met Leu Leu Ala Met Val Leu Thr Ser Ala Leu Leu Leu Cys Ser Val
1 5 10 15

Ala Gly Gln Gly Cys Pro Thr Leu Ala Gly Ile Leu Asp Ile Asn Phe
20 25 30

Leu Ile Asn Lys Met Gln Glu Asp Pro Ala Ser Lys Cys His Cys Ser
35 40 45

Ala Asn Val Thr Ser Cys Leu Cys Leu Gly Ile Pro Ser Asp Asn Cys
50 55 60

Thr Arg Pro Cys Phe Ser Glu Arg Leu Ser Gln Met Thr Asn Thr Thr
65 70 75 80

Met Gln Thr Arg Tyr Pro Leu Ile Phe Ser Arg Val Lys Lys Ser Val
85 90 95

Glu Val Leu Lys Asn Asn Lys Cys Pro Tyr Phe Ser Cys Glu Gln Pro
100 105 110

Cys Asn Gln Thr Thr Ala Gly Asn Ala Leu Thr Phe Leu Lys Ser Leu
115 120 125

Leu Glu Ile Phe Gln Lys Glu Lys Met Arg Gly Met Arg Gly Lys Ile
130 135 140

<210> 53

<211> 808

<212> PRT

<213> Homo sapiens

<400> 53

Met Ala Glu Leu Leu Ala Ser Ala Gly Ser Ala Cys Ser Trp Asp Phe
1 5 10 15

Pro Arg Ala Pro Pro Ser Phe Pro Pro Pro Ala Ala Ser Arg Gly Gly
20 25 30

Leu Gly Gly Thr Arg Ser Phe Arg Pro His Arg Gly Ala Glu Ser Pro
35 40 45

Arg Pro Gly Arg Asp Arg Asp Gly Val Arg Val Pro Met Ala Ser Ser
50 55 60

Arg Cys Pro Ala Pro Arg Gly Cys Arg Cys Leu Pro Gly Ala Ser Leu
 65 70 75 80

Ala Trp Leu Gly Thr Val Leu Leu Leu Leu Ala Asp Trp Val Leu Leu
 85 90 95

Arg Thr Ala Leu Pro Arg Ile Phe Ser Leu Leu Val Pro Thr Ala Leu
 100 105 110

Pro Leu Leu Arg Val Trp Ala Val Gly Leu Ser Arg Trp Ala Val Leu
 115 120 125

Trp Leu Gly Ala Cys Gly Val Leu Arg Ala Thr Val Gly Ser Lys Ser
 130 135 140

Glu Asn Ala Gly Ala Gln Gly Trp Leu Ala Ala Leu Lys Pro Leu Ala
 145 150 155 160

Ala Ala Leu Gly Leu Ala Leu Pro Gly Leu Ala Leu Phe Arg Glu Leu
 165 170 175

Ile Ser Trp Gly Ala Pro Gly Ser Ala Asp Ser Thr Arg Leu Leu His
 180 185 190

Trp Gly Ser His Pro Thr Ala Phe Val Val Ser Tyr Ala Ala Ala Leu
 195 200 205

Pro Ala Ala Ala Leu Trp His Lys Leu Gly Ser Leu Trp Val Pro Gly
 210 215 220

Gly Gln Gly Gly Ser Gly Asn Pro Val Arg Arg Leu Leu Gly Cys Leu
 225 230 235 240

Gly Ser Glu Thr Arg Arg Leu Ser Leu Phe Leu Val Leu Val Val Leu
 245 250 255

Ser Ser Leu Gly Glu Met Ala Ile Pro Phe Phe Thr Gly Arg Leu Thr
 260 265 270

Asp Trp Ile Leu Gln Asp Gly Ser Ala Asp Thr Phe Thr Arg Asn Leu
 275 280 285

Thr Leu Met Ser Ile Leu Thr Ile Ala Ser Ala Val Leu Glu Phe Val
 290 295 300

Gly Asp Gly Ile Tyr Asn Asn Thr Met Gly His Val His Ser His Leu

305		310		315		320
Gln Gly Glu Val	Phe Gly Ala Val	Leu Arg Gln Glu Thr	Glu Phe Phe			
	325		330			335
Gln Gln Asn Gln Thr	Gly Asn Ile Met Ser Arg Val	Thr Glu Asp Thr				
	340		345			350
Ser Thr Leu Ser Asp Ser	Leu Ser Glu Asn Leu Ser	Leu Phe Leu Trp				
	355		360			365
Tyr Leu Val Arg Gly	Leu Cys Leu Leu Gly Ile Met	Leu Trp Gly Ser				
	370		375			380
Val Ser Leu Thr Met	Val Thr Leu Ile Thr	Leu Pro Leu Leu Phe Leu				
	385		390			395
Leu Pro Lys Lys Val	Gly Lys Trp Tyr Gln Leu Leu Glu Val	Gln Val				
	405		410			415
Arg Glu Ser Leu Ala Lys Ser Ser	Gln Val Ala Ile Glu Ala Leu Ser					
	420		425			430
Ala Met Pro Thr Val Arg Ser	Phe Ala Asn Glu Glu Gly Glu Ala Gln					
	435		440			445
Lys Phe Arg Glu Lys Leu Gln Glu Ile Lys Thr	Leu Asn Gln Lys Glu					
	450		455			460
Ala Val Ala Tyr Ala Val Asn Ser Trp Thr Thr Ser Ile Ser Gly Met						
	465		470			475
Leu Leu Lys Val Gly Ile Leu Tyr Ile Gly Gly Gln Leu Val Thr Ser						
	485		490			495
Gly Ala Val Ser Ser Gly Asn Leu Val Thr Phe Val Leu Tyr Gln Met						
	500		505			510
Gln Phe Thr Gln Ala Val Glu Val Leu Leu Ser Ile Tyr Pro Arg Val						
	515		520			525
Gln Lys Ala Val Gly Ser Ser Glu Lys Ile Phe Glu Tyr Leu Asp Arg						
	530		535			540
Thr Pro Arg Cys Pro Pro Ser Gly Leu Leu Thr Pro Leu His Leu Glu						

545		550		555		560									
Gly	Leu	Val	Gln	Phe	Gln	Asp	Val	Ser	Phe	Ala	Tyr	Pro	Asn	Arg	Pro
				565					570					575	
Asp	Val	Leu	Val	Leu	Gln	Gly	Leu	Thr	Phe	Thr	Leu	Arg	Pro	Gly	Glu
			580					585					590		
Val	Thr	Ala	Leu	Val	Gly	Pro	Asn	Gly	Ser	Gly	Lys	Ser	Thr	Val	Ala
		595					600					605			
Ala	Leu	Leu	Gln	Asn	Leu	Tyr	Gln	Pro	Thr	Gly	Gly	Gln	Leu	Leu	Leu
	610					615					620				
Asp	Gly	Lys	Pro	Leu	Pro	Gln	Tyr	Glu	His	Arg	Tyr	Leu	His	Arg	Gln
625					630					635					640
Val	Ala	Ala	Val	Gly	Gln	Glu	Pro	Gln	Val	Phe	Gly	Arg	Ser	Leu	Gln
				645					650					655	
Glu	Asn	Ile	Ala	Tyr	Gly	Leu	Thr	Gln	Lys	Pro	Thr	Met	Glu	Glu	Ile
			660					665					670		
Thr	Ala	Ala	Ala	Val	Lys	Ser	Gly	Ala	His	Ser	Phe	Ile	Ser	Gly	Leu
			675				680					685			
Pro	Gln	Gly	Tyr	Asp	Thr	Glu	Val	Asp	Glu	Ala	Gly	Ser	Gln	Leu	Ser
	690					695					700				
Gly	Gly	Gln	Arg	Gln	Ala	Val	Ala	Leu	Ala	Arg	Ala	Leu	Ile	Arg	Lys
705					710					715					720
Pro	Cys	Val	Leu	Ile	Leu	Asp	Asp	Ala	Thr	Ser	Ala	Leu	Asp	Ala	Asn
				725					730					735	
Ser	Gln	Leu	Gln	Val	Glu	Gln	Leu	Leu	Tyr	Glu	Ser	Pro	Glu	Arg	Tyr
			740					745					750		
Ser	Arg	Ser	Val	Leu	Leu	Ile	Thr	Gln	His	Leu	Ser	Leu	Val	Glu	Gln
		755					760					765			
Ala	Asp	His	Ile	Leu	Phe	Leu	Glu	Gly	Gly	Ala	Ile	Arg	Glu	Gly	Gly
	770					775					780				
Thr	His	Gln	Gln	Leu	Met	Glu	Lys	Lys	Gly	Cys	Tyr	Trp	Ala	Met	Val
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Gln Ala Pro Ala Asp Ala Pro Glu
805

<210> 54
<211> 140
<212> PRT
<213> Homo sapiens

<400> 54

Met Val Leu Thr Ser Ala Leu Leu Leu Cys Ser Val Ala Gly Gln Gly
1 5 10 15

Cys Pro Thr Leu Ala Gly Ile Leu Asp Ile Asn Phe Leu Ile Asn Lys
20 25 30

Met Gln Glu Asp Pro Ala Ser Lys Cys His Cys Ser Ala Asn Val Thr
35 40 45

Ser Cys Leu Cys Leu Gly Ile Pro Ser Asp Asn Cys Thr Arg Pro Cys
50 55 60

Phe Ser Glu Arg Leu Ser Gln Met Thr Asn Thr Thr Met Gln Thr Arg
65 70 75 80

Tyr Pro Leu Ile Phe Ser Arg Val Lys Lys Ser Val Glu Val Leu Lys
85 90 95

Asn Asn Lys Cys Pro Tyr Phe Ser Cys Glu Gln Pro Cys Asn Gln Thr
100 105 110

Thr Ala Gly Asn Ala Leu Thr Phe Leu Lys Ser Leu Leu Glu Ile Phe
115 120 125

Gln Lys Glu Lys Met Arg Gly Met Arg Gly Lys Ile
130 135 140

<210> 55
<211> 2171
<212> DNA
<213> Homo sapiens

<400> 55
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gcacccagag atagttgggt gacaaatcac ctccaggttg gggatgcctc agacttgtga 180

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 <212> DNA
 <213> Homo sapiens

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gcacccagag atagtgggt gacaaatcac ctccaggttg gggatgcctc agacttgtga	180
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<210> 57
 <211> 1451
 <212> DNA
 <213> Homo sapiens

<400> 57						
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<210> 58
<211> 521
<212> PRT
<213> Homo sapiens

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<400> 58

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Met Gly Leu Gly Arg Cys Ile Trp Glu Gly Trp Thr Leu Glu Ser Glu
1              5              10              15

```

```

Ala Leu Arg Arg Asp Met Gly Thr Trp Leu Leu Ala Cys Ile Cys Ile
20              25              30

```

```

Cys Thr Cys Val Cys Leu Gly Val Ser Val Thr Gly Glu Gly Gln Gly
35              40              45

```

```

Pro Arg Ser Arg Thr Phe Thr Cys Leu Thr Asn Asn Ile Leu Arg Ile
50              55              60

```

```

Asp Cys His Trp Ser Ala Pro Glu Leu Gly Gln Gly Ser Ser Pro Trp
65              70              75              80

```

```

Leu Leu Phe Thr Ser Asn Gln Ala Pro Gly Gly Thr His Lys Cys Ile
85              90              95

```

```

Leu Arg Gly Ser Glu Cys Thr Val Val Leu Pro Pro Glu Ala Val Leu
100             105             110

```

```

Val Pro Ser Asp Asn Phe Thr Ile Thr Phe His His Cys Met Ser Gly
115             120             125

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Arg	Glu	Gln	Val	Ser	Leu	Val	Asp	Pro	Glu	Tyr	Leu	Pro	Arg	Arg	His
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Val	Lys	Leu	Asp	Pro	Pro	Ser	Asp	Leu	Gln	Ser	Asn	Ile	Ser	Ser	Gly
145					150					155					160
His	Cys	Ile	Leu	Thr	Trp	Ser	Ile	Ser	Pro	Ala	Leu	Glu	Pro	Met	Thr
				165					170					175	
Thr	Leu	Leu	Ser	Tyr	Glu	Leu	Ala	Phe	Lys	Lys	Gln	Glu	Glu	Ala	Trp
			180					185						190	
Glu	Gln	Ala	Gln	His	Arg	Asp	His	Ile	Val	Gly	Val	Thr	Trp	Leu	Ile
			195				200							205	
Leu	Glu	Ala	Phe	Glu	Leu	Asp	Pro	Gly	Phe	Ile	His	Glu	Ala	Arg	Leu
	210					215					220				
Arg	Val	Gln	Met	Ala	Thr	Leu	Glu	Asp	Asp	Val	Val	Glu	Glu	Glu	Arg
225					230					235					240
Tyr	Thr	Gly	Gln	Trp	Ser	Glu	Trp	Ser	Gln	Pro	Val	Cys	Phe	Gln	Ala
			245						250					255	
Pro	Gln	Arg	Gln	Gly	Pro	Leu	Ile	Pro	Pro	Trp	Gly	Trp	Pro	Gly	Asn
			260					265					270		
Thr	Leu	Val	Ala	Val	Ser	Ile	Phe	Leu	Leu	Leu	Thr	Gly	Pro	Thr	Tyr
		275					280					285			
Leu	Leu	Phe	Lys	Leu	Ser	Pro	Arg	Val	Lys	Arg	Ile	Phe	Tyr	Gln	Asn
	290					295					300				
Val	Pro	Ser	Pro	Ala	Met	Phe	Phe	Gln	Pro	Leu	Tyr	Ser	Val	His	Asn
305					310					315					320
Gly	Asn	Phe	Gln	Thr	Trp	Met	Gly	Ala	His	Gly	Ala	Gly	Val	Leu	Leu
			325						330					335	
Ser	Gln	Asp	Cys	Ala	Gly	Thr	Pro	Gln	Gly	Ala	Leu	Glu	Pro	Cys	Val
			340					345					350		
Gln	Glu	Ala	Thr	Ala	Leu	Leu	Thr	Cys	Gly	Pro	Ala	Arg	Pro	Trp	Lys
		355					360					365			

Ser Val Ala Leu Glu Glu Glu Gln Glu Gly Pro Gly Thr Arg Leu Pro
 370 375 380

Gly Asn Leu Ser Ser Glu Asp Val Leu Pro Ala Gly Cys Thr Glu Trp
 385 390 395 400

Arg Val Gln Thr Leu Ala Tyr Leu Pro Gln Glu Asp Trp Ala Pro Thr
 405 410 415

Ser Leu Thr Arg Pro Ala Pro Pro Asp Ser Glu Gly Ser Arg Ser Ser
 420 425 430

Ser Ser Ser Ser Ser Ser Asn Asn Asn Asn Tyr Cys Ala Leu Gly Cys
 435 440 445

Tyr Gly Gly Trp His Leu Ser Ala Leu Pro Gly Asn Thr Gln Ser Ser
 450 455 460

Gly Pro Ile Pro Ala Leu Ala Cys Gly Leu Ser Cys Asp His Gln Gly
 465 470 475 480

Leu Glu Thr Gln Gln Gly Val Ala Trp Val Leu Ala Gly His Cys Gln
 485 490 495

Arg Pro Gly Leu His Glu Asp Leu Gln Gly Met Leu Leu Pro Ser Val
 500 505 510

Leu Ser Lys Ala Arg Ser Trp Thr Phe
 515 520

<210> 59
 <211> 332
 <212> PRT
 <213> Homo sapiens

<400> 59

Met His Leu Gly Ser Asn Cys Cys Lys Asn Gly Gln Thr Leu Leu Gln
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Arg Thr Cys His Gly Val Ser Cys Cys Gly Trp Trp Phe Gln Ala Ala
 20 25 30

Arg Ser Ile Leu Gly Lys Gly Pro Ser Ala Gln Ser Leu Ala Gly Trp
 35 40 45

Thr Leu Glu Ser Glu Ala Leu Arg Arg Asp Met Gly Thr Trp Leu Leu
 50 55 60

Ala Cys Ile Cys Ile Cys Thr Cys Val Cys Leu Gly Val Ser Val Thr
 65 70 75 80

Gly Glu Gly Gln Gly Pro Arg Ser Arg Thr Phe Thr Cys Leu Thr Asn
 85 90 95

Asn Ile Leu Arg Ile Asp Cys His Trp Ser Ala Pro Glu Leu Gly Gln
 100 105 110

Gly Ser Ser Pro Trp Leu Leu Phe Thr Arg Leu Leu Ala Ala His Ile
 115 120 125

Ser Ala Ser Cys Gly Ala Val Ser Ala Pro Ser Cys Cys His Leu Arg
 130 135 140

Gln Cys Ser Cys His Leu Thr Ile Ser Pro Ser Leu Ser Thr Thr Ala
 145 150 155 160

Cys Leu Gly Gly Ser Arg Ser Ala Trp Trp Thr Arg Ser Thr Cys Pro
 165 170 175

Gly Asp Thr Ser Asn Ile Ser Ser Gly His Cys Ile Leu Thr Trp Ser
 180 185 190

Ile Ser Pro Ala Leu Glu Pro Met Thr Thr Leu Leu Ser Tyr Glu Leu
 195 200 205

Ala Phe Lys Lys Gln Glu Glu Ala Trp Glu Gln Ala Gln His Arg Asp
 210 215 220

His Ile Val Gly Val Thr Trp Leu Ile Leu Glu Ala Phe Glu Leu Asp
 225 230 235 240

Pro Gly Phe Ile His Glu Ala Arg Leu Arg Val Gln Met Ala Thr Leu
 245 250 255

Glu Asp Asp Val Val Glu Glu Glu Arg Tyr Thr Gly Gln Trp Ser Glu
 260 265 270

Trp Ser Gln Pro Val Cys Phe Gln Ala Pro Gln Arg Gln Gly Pro Leu
 275 280 285

Ile Pro Pro Trp Gly Trp Pro Gly Asn Thr Leu Val Ala Val Ser Ile

290		295		300											
Phe	Leu	Leu	Leu	Thr	Gly	Pro	Thr	Tyr	Leu	Leu	Phe	Lys	Leu	Ser	Pro
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Arg	Leu	Gly	Trp	Gly	Pro	Thr	Gly	Pro	Val	Cys	Cys				
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<210>	60														
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<212>	PRT														
<213>	Homo sapiens														
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Met	Leu	Lys	Pro	Ser	Leu	Pro	Phe	Thr	Ser	Leu	Leu	Phe	Leu	Gln	Leu
1				5					10					15	
Pro	Leu	Leu	Gly	Val	Gly	Leu	Asn	Thr	Thr	Ile	Leu	Thr	Pro	Asn	Gly
			20					25					30		
Asn	Glu	Asp	Thr	Thr	Ala	Asp	Phe	Phe	Leu	Thr	Thr	Met	Pro	Thr	Asp
		35					40					45			
Ser	Leu	Ser	Val	Ser	Thr	Leu	Pro	Leu	Pro	Glu	Val	Gln	Cys	Phe	Val
	50					55					60				
Phe	Asn	Val	Glu	Tyr	Met	Asn	Cys	Thr	Trp	Asn	Ser	Ser	Ser	Glu	Pro
65					70					75					80
Gln	Pro	Thr	Asn	Leu	Thr	Leu	His	Tyr	Trp	Tyr	Lys	Asn	Ser	Asp	Asn
			85						90					95	
Asp	Lys	Val	Gln	Lys	Cys	Ser	His	Tyr	Leu	Phe	Ser	Glu	Glu	Ile	Thr
			100					105					110		
Ser	Gly	Cys	Gln	Leu	Gln	Lys	Lys	Glu	Ile	His	Leu	Tyr	Gln	Thr	Phe
		115					120					125			
Val	Val	Gln	Leu	Gln	Asp	Pro	Arg	Glu	Pro	Arg	Arg	Gln	Ala	Thr	Gln
	130					135					140				
Met	Leu	Lys	Leu	Gln	Asn	Leu	Val	Ile	Pro	Trp	Ala	Pro	Glu	Asn	Leu
145					150					155					160
Thr	Leu	His	Lys	Leu	Ser	Glu	Ser	Gln	Leu	Glu	Leu	Asn	Trp	Asn	Asn
				165					170					175	

Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp
180 185 190

Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe
195 200 205

Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg
210 215 220

Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp
225 230 235 240

Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Pro Phe
245 250 255

Leu Phe Ala Leu Glu Ala Val Val Ile Ser Val Gly Ser Met Gly Leu
260 265 270

Ile Ile Ser Leu Leu Cys Val Tyr Phe Trp Leu Glu Arg Thr Met Pro
275 280 285

Arg Ile Pro Thr Leu Lys Asn Leu Glu Asp Leu Val Thr Glu Tyr His
290 295 300

Gly Asn Phe Ser Ala Trp Ser Gly Val Ser Lys Gly Leu Ala Glu Ser
305 310 315 320

Leu Gln Pro Asp Tyr Ser Glu Arg Leu Cys Leu Val Ser Glu Ile Pro
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Pro Lys Gly Gly Ala Leu Gly Glu Gly Pro Gly Ala Ser Pro Cys Asn
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Gln His Ser Pro Tyr Trp Ala Pro Pro Cys Tyr Thr Leu Lys Pro Glu
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Thr

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